CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD SAN DIEGO REGION

MONITORING AND REPORTING PROGRAM NO. 99-74 FOR THE SYCAMORE LANDFILL INC. A SUBSIDIARY OF ALLIED WASTE INDUSTRIES INC. SYCAMORE LANDFILL SAN DIEGO COUNTY

A. MONITORING PROVISIONS

- 1. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer. Specific methods of analysis must be identified. If methods other than U. S. EPA approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Executive Officer prior to use. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.
- 2. If the discharger monitors any pollutants more frequently than required by this Order, using the most recent version of Standard U. S. EPA Methods, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharger's monitoring report. The increased frequency of monitoring shall also be reported.
- 3. The discharger shall report all instances of noncompliance not reported under Reporting Requirement D.6 of this Order at the time monitoring reports are submitted. The reports shall contain the information listed in Reporting Requirement D.6.
- 4. Sample collection, storage, and analysis shall be performed according to the most recent version of Standard U. S. EPA Methods, and in accordance with an approved sampling and analysis plan.
- 5. All monitoring instruments and equipment shall be properly calibrated and maintained as necessary to ensure accuracy of measurements.
- 6. The discharger shall retain records of all monitoring information, including all calibration and maintenance records and copies of all reports required by this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report or application. This period may be extended

during the course of any unresolved litigation regarding this discharge or when requested by the Executive Officer.

- 7. Records of monitoring information shall include:
 - a. The date, identity of sample, Monitoring Point from which it was taken, and time of sampling or measurement;
 - b. The individual(s) who performed the sampling or measurements;
 - c. Date and time that analyses were started and completed, and the name of the personnel performing each analysis;
 - d. The analytical techniques or method used, including method of preserving the sample and the identity and volumes of reagents used;
 - e. Calculation of results; and
 - f. Results of analyses, and the MDL for each parameter.
 - g. Laboratory quality assurance results (e.g. percent recovery, response factor).
- 8. The monitoring reports shall be signed by an authorized person as required by Reporting Requirement D.13 of this Order.
- 9. The discharger shall ensure that the laboratory analysis of all samples from Monitoring Points and Background Monitoring Points complies with the following restrictions:
 - a. The methods of analysis and the detection limits used shall be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., "trace" or "ND") in data from Background Monitoring Points for that medium, the analytical method having the lowest method detection limit (MDL) shall be selected from among those methods which would provide valid results in light of any Matrix effects involved.
 - b. Analytical results falling between the MDL and the practical quantitation limit (PQL) shall be reported as "trace" and shall be accompanied both by the (nominal or estimated) MDL and PQL values for that analytical run.
 - c. MDLs and PQLs shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation

procedures. These nominal MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.

If the lab suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived nominal MDL/PQL values, the results shall be flagged accordingly, along with estimates of the detection limit and quantitation limit actually achieved. The MDL shall always be calculated such that it represents a concentration associated with a 99% reliability of a non-zero result. The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent's actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.

- d. All QA/QC data shall be reported, along with the sample results to which it applies, including the method, equipment, and analytical detection and quantitation limits, the recovery rates, an explanation for any recovery rate that is less than 80%, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recovery. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.
- e. Upon receiving written approval from the Executive Officer, an alternative statistical or non-statistical procedure can be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (e.g., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate) during any given Reporting Period in which QA/QC samples show evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Board staff.
- f. Unknown chromatographic peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures

shall be performed to attempt to identify and more accurately quantify the unknown analyte.

g. The MDL and PQL shall be determined in accordance with the definitions of those terms in Title 27.

B. DETECTION MONITORING

1. Water samples from the compliance points shall be collected, analyzed, and reported as shown in the following table:

CONSTITUENT	UNITS	SAMPLING AND REPORTING FREQUENCY
PH	PH	Semi-Annually
Total Dissolved Solids	mg/l	Semi-Annually
Chloride	mg/l	Semi-Annually
Sulfate	mg/l	Semi-Annually
Nitrate as Nitrogen	mg/l	Semi-Annually
Volatile Organic Constituents	Ug/l	Semi-Annually

Note: mg/l = milligrams/liter and $\mu g/l = micrograms/liter$

- 2. The discharger shall establish and maintain ground water wells at the landfill site to be used as part of the water quality monitoring program.
- 3. Prior to pumping monitoring wells for sampling, the static water level shall be measured in each well.
- 4. Prior to sampling monitoring wells, the presence of a floating immiscible layer in all wells shall be determined at the beginning of each sampling event. This shall be done prior to any other activity which may disturb the surface of the water in a well, e.g. water level measurements. If an immiscible layer is found, the Regional Board shall be notified within 24 hours.
- 5. For each monitored ground water body, the discharger shall measure the water level in each well and determine ground water flow rate and direction at least semi-annually, including the times of expected highest and lowest elevations of the water level for the respective ground water body. Ground water elevations for all background and downgradient wells for a given ground water body shall be measured within a period of time short enough to avoid temporal variations in

ground water flow which could preclude accurate determination of ground water flow rate and direction.

- 6. Water Quality Protection Standard (Standard) for Detection Monitoring. The five parts of the Water Quality Protection Standard [Standard] of §20390, Title 27 CCR are as follows:
 - a. <u>Constituents of Concern</u> [§20395, Title 27 CCR]. The list of Constituents of Concern for water-bearing media [i.e., ground water, surface water, and soil pore liquid] consists of the combined listing of all constituents in Appendices I and II to 40 CFR Part 258 in addition to TDS, Sulfate, nitrate, pH, and Chloride. Constituents of Concern, and many other terms of art used in this Order, are defined in Attachment No. 1 to Monitoring and Reporting Program No.99-74.
 - **Concentration Limits** [§20400, Title 27CCR]. For each Monitoring Point assigned to a Detection Monitoring Program, the Concentration Limit for each Constituent of Concern [or Monitoring Parameter] shall be its background value as obtained during that Reporting Period as follows:
 - 1) <u>If</u> 10% or more of the samples taken during a given Reporting Period from the Background Monitoring Points for a monitored medium exceed their respective Method Detection Limit [MDL]" for a given constituent, <u>then</u> the Concentration Limit for that medium and constituent shall consist of the mean [or median, as appropriate] and standard deviation [or other measure of central tendency, as appropriate] of all the background data obtained for that constituent from that medium during that Reporting Period; otherwise
 - 2) the Concentration Limit for that medium and constituent shall be its MDL.
 - Monitoring Points and Background Monitoring Points for Detection Monitoring [§20405, Title 27 CCR] The Monitoring Points for the Sycamore Landfill are: ITSY-5, ITSY-6, ITSY-7, ITSY-9, ITSY-10 and ITSY-11. The Background Monitoring Point for the Sycamore Landfill is ITSY-8. These monitoring points are shown on Attachment No. 2 to this Monitoring and Reporting Program.
 - **d.** <u>Point of Compliance</u>[§20405, Title 27 CCR]. The Point of Compliance is shown on Attachment No. 2 to this Monitoring and Reporting Program, and extends down through the Zone of Saturation [§20164, Title 27 CCR].

e. <u>Compliance Period</u> [§20410, Title 27 CCR]. The estimated duration of the Compliance Period for this Unit is 60 years. Each time the Standard is broken (i.e., a release is discovered), the Unit begins a Compliance Period on the date the Regional Board directs the Discharger to begin an Evaluation Monitoring Program. If the Discharger's Corrective Action Program (CAP) has not achieved compliance with the Standard by the scheduled end of the Compliance Period, the Compliance Period is automatically extended until the Unit has been in continuous compliance for at least three consecutive years [§20410, Title 27 CCR].

7. Leachate Monitoring

During October each year, the discharger shall sample the leachate from the LCRS and analyze the sample for COCs. The COC list shall consist of all wast constituents listed in this Monitoring and Reporting Program and include each constituent listed in Appendix II to 40 CFR Part 258 that is not already a COC for the landfill.

The discharger shall report the analytical results to the Regional Board by no later than January 31, including an identification of all detected Appendix II constituents that are not on the landfill's COC list and is also detected in a retest leachate sample collected the following April. The retest sample shall only be analyzed for the non-COCs detected in the October sample. During any year in which an April leachate retest is carried out, the discharger shall submit a report to the Regional Board, by no later than August 1, identifying all constituents which must be added to the landfill's COC list as a result of detection in both the October and April analyses.

For each Appendix II constituent that is added to the landfill's COC list (as described above), the discharger shall establish a reference background value in each monitored medium by analyzing at least one sample each quarter from each Background Monitoring Point for a period of at least one year following the date the constituent is submitted to the Regional Board as a new COC. Once this reference set of background data is collected, the discharger shall include it as a separate, identified item in the next monitoring report submittal.

C. RESPONSE TO A RELEASE

1. If the discharger determines that there is significant statistical evidence of a release, (i.e., the initial statistical comparison or non-statistical comparison indicates, for any Constituent of Concern or monitoring parameter, that a

release is tentatively identified), the discharger shall immediately notify Regional Board staff verbally as to the monitoring point(s) involved, shall provide written notification by certified mail within seven days of such determination, and shall carry out a discrete test (described below).

If the retest confirms the existence of a release, the discharger shall carry out the requirements (described in 3 below). The discharger shall inform the Regional Board of the outcome of the retest as soon as the results are available, and provide written results submitted by certified mail within seven days of completing the retest.

- 2. If the discharger determines that there is significant physical evidence of a release, the discharger shall notify the Regional Board by telephone within 24 hours and by certified mail within 7 days, and shall carry out the requirements of B.3 for all potentially affected monitored media.
- 3. If the discharger concludes that a release has been discovered:
 - a. If this conclusion is not based upon "direct monitoring" of the Constituents of Concern, then the discharger shall, within 30 days, sample for all COCs at all monitoring points in the affected medium for the waste management unit and submit them for laboratory analysis. Within 7 days of receiving the laboratory analytical results, the discharger shall notify the Regional Board, by certified mail, of the concentration of all COCs at each monitoring point in the affected medium. Because this scan is not to be statistically tested against background, only a single datum is required for each COC at each monitoring point,
 - b. The discharger shall, within 90 days of discovering the release, submit a revised Report of Waste Discharge proposing an Evaluation Monitoring Program meeting the requirements of Sections 20420(k)(5) and 20425, Title 27, CCR, and, if applicable, the requirements of 40 CFR 258.55.
 - c. The discharger shall, within 180 days of discovering the release, submit to the Regional Board a preliminary engineering feasibility study meeting the requirements of Section 20420(k)(6), Title 27 CCR.
- 4. In the event that the discharger concludes that a release has been tentatively indicated (under the statistical or nonstatistical method), the discharger shall, within 30 days, collect two new suites of samples for the indicated COCs or monitoring parameter(s) at each indicating monitoring point, collecting at least as many samples per suite as were used for the

initial test. Resampling of the backgound monitoring points is optional. Samples shall be analyzed using the same analytical methods which produced the original data which showed tentative evidence of release. Sample data shall be analyzed using the same statistical procedure or non-statistical procedure which provided the tentative evidence of release.

As soon as the data are available, the discharger shall rerun the statistical or nonstatistical method separately upon each suite of retest data. For any indicated monitoring parameter or COC at an affected monitoring point, if the test results of either (or both) of the retest data suites confirm the original indication, the discharger shall conclude that a release has been discovered.

All retests shall be carried out only for the monitoring point(s) for which a release is tentatively indicated, and only for the COC or monitoring parameters which triggered the indication there, as follows:

- a. If an ANOVA method was used for the original data, the retest shall involve only a repeat of the multiple comparison procedure, carried out separately on each of the two new suites of samples taken from the indicating monitoring point.
- b. If the Method of Proportions was used for the original data, the retest shall consist of a full repeat of the statistical test for the indicated constituent or parameter, performed separately on each of the new sample suites from the indicating monitoring point.
- c. If the non-statistical method was used for the original data:
 - i. Because the VOC monitoring parameters (VOC_{water} or VOC_{spg}) each address, as a single parameter, an entire family of constituents which are likely to be present in any landfill release, the scope of the laboratory analysis for each retest sample shall include all VOCs detectable in that retest sample. Therefore, a confirming retest for either parameter shall have validated the original indication even if the suite of constituents in the confirming retest sample(s) differs from that in the sample which initiated the retest;
 - ii. Because all COCs are jointly addressed in the nonstatistical testing remain as individual COCs, the scope of the laboratory analysis for the non-statistical retest samples shall be narrowed to involve only those constituents detected in the sample which initiated the retest.

D. RESPONSE TO DETECTION OF VOCS IN BACKGROUND (or any other constituent which is expected to be "zero" in background and not amenable to statistical analysis)

- 1. Except as provided in D.3 below, any time the laboratory analysis of a sample from a background monitoring point, sampled for VOCs shows either:
 - (a) two or more VOCs at or above their respective MDL, or
 - (b) one VOC at or above its respective PQL, then the discharger shall:
 - i. Notify the Regional Board by phone.
 - ii. Follow up with written notification by certified mail within seven days.
 - iii. Obtain two new independent VOC samples from that background monitoring point.
 - iv. Send the samples for laboratory analysis of all detectable VOCs within 30 days.
- 2. If either or both the new samples validates the presence of VOC(s), using the above procedure, the discharger shall:
 - a. Notify the Regional Board by phone.
 - b. Follow up with written notification by certified mail within seven days.
 - c. Within 180 days of validation, submit a report, acceptable to the Executive Officer which examines the possibility that the detected VOC(s) originated from the waste management unit and proposing appropriate changes to the monitoring progam.
- 3. If the Executive Officer determines, after reviewing the report submitted under 2.b above, that the VOC(s) detected originated from a source other than the waste management unit, the Executive Officer will make appropriate changes to the monitoring program.
- 4. If the Executive Officer determines, after reviewing the report submitted under 2.b above, that the detected VOC(s) most likely originated from the waste management unit, the discharger shall assume that a release has been detected and shall immediately begin carrying out the applicable general requirements for Response to Release, above.

E. RELEASE BEYOND FACILITY BOUNDARY

- 1. Any time the discharger concludes that a release from the waste management unit has proceeded beyond the facility boundary, the discharger shall notify all persons who either own or reside upon the land that directly overlies any part of the plume (affected persons).
- 2. Initial notification to affected persons shall be accomplished within 14 days of making this conclusion and shall include a description of the discharger's current knowledge of the nature and extent of the release.
- 3. The discharger shall provide updates to all affected persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.
- 4. Each time the discharger sends a notification to affected persons, the discharger shall provide the Regional Board within seven days of sending such notification, with both a copy of the notification and a current mailing list of affected persons.

F. REPORTS TO BE FILED WITH THE BOARD

All reports shall be submitted no later than one month following the end of their respective Reporting Period. The reports shall be comprised of at least the following in addition to the specific contents listed for each respective report type:

1. Transmittal Letter

A letter summarizing the essential points shall be submitted with each report. The transmittal letter shall include:

- a. A discussion of any requirement violations found since the last such report was submitted and shall describe actions taken or planned for correcting those violations. If the discharger has previously submitted a detailed time schedule for correcting said requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter; and
- b. A statement certifying that, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and

correct. This statement shall be signed by an individual that meets the requirements contained in Reporting Requirement E.9.

2. Semi-Annual Report

The semi-annual report shall contain, but not be limited to, a compliance evaluation summary of the ground water data obtained. The summary shall include the following information:

- a. Monitoring parameters;
- b. Detection limit of monitoring equipment;
- c. Measured concentrations found in the current sampling event;
- d. A map (or copy of an aerial photograph) which indicates the locations of observation stations, Monitoring Points, and Background Monitoring Points and ground water flow rate/direction;
- e. Monitoring well information, method and time of ground water level measurement;
- f. Sampling information, type of pump used and its vertical placement, detailed description of sampling procedure, QA/QC;
- g. Leachate and run on/off control statement regarding the condition and performance of any leachate monitoring and control facilities and of the run on/off control facilities; and
- h. Quantity and types of waste discharged and the location in the landfill where waste has been placed since the submittal of the last monitoring report.

3. Annual Summary Report

The annual summary report, covering the previous monitoring year, shall contain the following information:

a. For each monitoring point, submit in graphical format the laboratory analytical data for all samples taken within at least the previous five calendar years. Each graph shall plot the concentration of one or more constituents over time for a given monitoring point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. On the basis of any aberrations noted in the plotted data, the Executive Officer may direct the discharger to carry out a preliminary investigation, the results of which will determine whether or not a release is indicated.

- b. All monitoring analytical data obtained during the previous two six-month reporting periods, presented in tabular form as well as on diskettes in a file format acceptable to the Executive Officer. Data sets too large to fit on a single diskette may be submitted on disk in a commonly available compressed format (e.g., PK-IP or NORTON BACKUP) acceptable to the Executive Officer.
- c. A comprehensive discussion of the compliance record, and of any corrective actions taken or planned which may be needed to bring the discharger into full compliance with Order No. 99-74.
- d. A written summary of the monitoring results and monitoring system(s), indicating any changes made or observed since the previous annual report.
- e. A topographic map at appropriate scale, showing the direction of ground water flow at the landfill site and showing the area in which filling has been completed in the previous year.
- f. A written summary of monitoring results and monitoring system(s) indicating any changes made or observed since the previous report.
- g. For units with leachate control/monitoring facilities, an evaluation of their effectiveness, pursuant to Title 27.

4. Constituents of Concern Report (every 5 years)

In the absence of a release being indicated, the discharger shall monitor all constituents of concern (COCs) and submit a COC Report as follows:

- a. The discharger shall sample all monitoring points and background monitoring points for each monitored medium for all COCs every fifth year. The first COC report was due in Spring 1996, subsequent COC reports will be carried out every fifth year thereafter alternately in the Fall (Reporting Period ends September 30) and Spring (Reporting Period ends March 31). The COC report may be combined with any Monitoring Report or any Annual Summary report having a reporting period at ends at the same time. The COC Report shall meet the minimum monitoring report requirements as described in E.1 above.
- b. The discharger shall monitor for all COCs in accordance with this Section, provided that such monitoring need only encompass those COCs that do not also serve as monitoring parameters.

G. REPORTING

E. NOTIFICATIONS

1. California Water Code Section 13263(g) states:

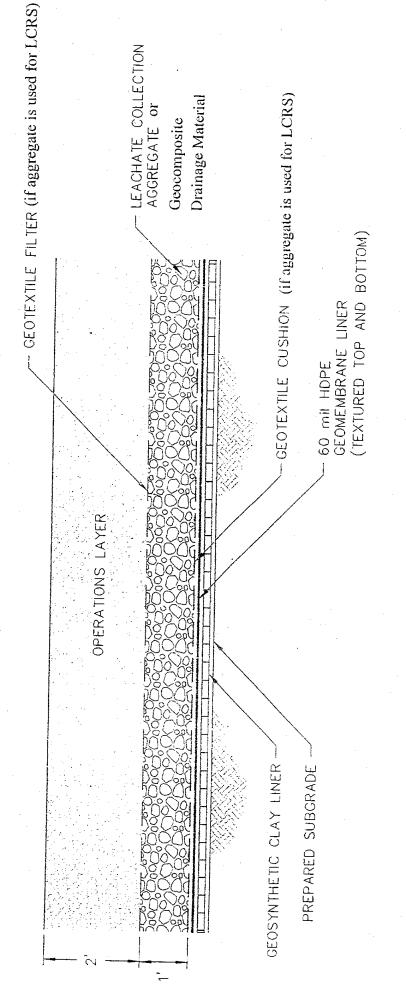
"No discharge of waste into waters of the state, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the state are privileges, not rights."

- 2. These requirements have not been officially reviewed by the United States Environmental Protection Agency and are not issued pursuant to Section 402 of the Clean Water Act.
- 3. The California Water Code provides that any person who intentionally or negligently violates any waste discharge requirements issued, reissued, or amended by this Regional Board is subject to a civil monetary remedy of up to 20 dollars per gallon of waste discharged or, if a cleanup and abatement order is issued, up to 15,000 dollars per day of violation or some combination thereof.
- 4. The California Water Code provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or falsifying any information provided in the monitoring reports is guilty of a misdemeanor and may be subject to administrative civil liability of up to one thousand dollars per day of violation.
- 5. Definitions of terms used in this Order shall be as set forth in Subdivision 1, Division 2, Title 27 CCR and 40CFR 258.
- 6. Operation of the Sycamore Landfill may be subject to regulations of the California Integrated Waste Management Board.
- 6. This Order becomes effective on the date of adoption by the Regional Board.

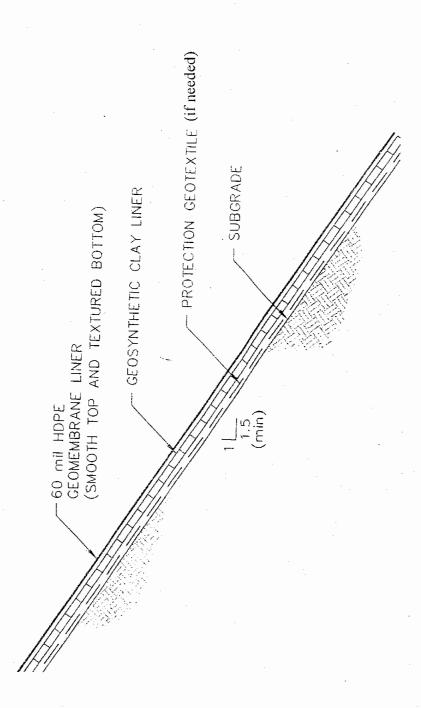
I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on October 13, 1999.

JOHN M/ROBERTUS

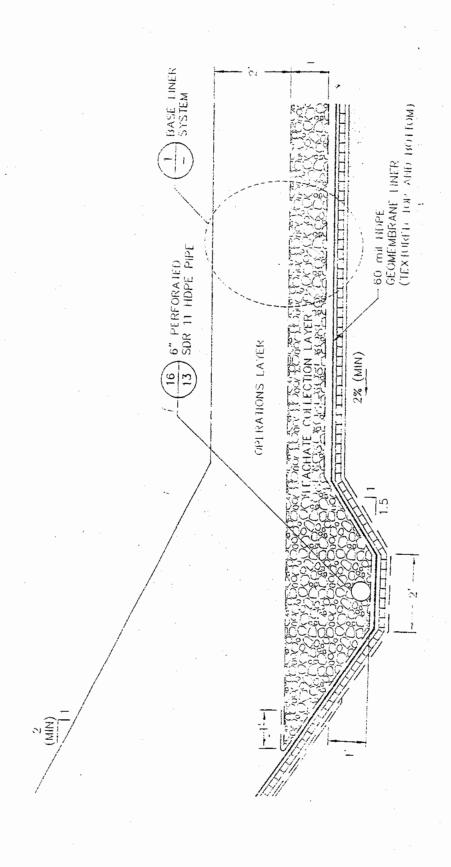
Executive Officer



BASE LINER SYSTEM SCALE: 1" = 2'



SIDESLOPE LINER SYSTEM SCALE: 1" = 2'



Attachment No. 4 to Order No. 99-74